Website:https://www.bgpulseusa.com/index.php/ICAIA Volume:6,Issue 02,October-2026

THE ROLE OF ARTIFICIAL INTELLIGENCE IN MARKETING DECISION-MAKING: A MANAGEMENT PERSPECTIVE

Abdurahmon Rustam o‘g‘li Ro‘ziyev
International School of Finance Technology and Science
Department of Business Administration Lecturer
E-mail: ruzievabdurahmon077@gmail.com

Abstract. Artificial intelligence (AI) is transforming marketing decision-making by enabling organizations to process large volumes of customer and market data, identify patterns, forecast demand, personalize communication, and optimize marketing resources. This article examines the role of AI in marketing decision-making from a management perspective, focusing on how AI-supported analytics can improve strategic, tactical, and operational decisions. The study uses a conceptual and analytical approach based on a review of recent academic and institutional literature. The analysis indicates that AI can strengthen customer segmentation, demand forecasting, pricing, campaign optimization, customer relationship management, and performance measurement. At the same time, effective adoption requires managerial oversight because algorithmic bias, data quality problems, privacy concerns, lack of explainability, and excessive reliance on automated recommendations may create new organizational risks. The article argues that AI should be treated not as a replacement for managerial judgment but as a decision-support capability integrated with human expertise, organizational strategy, and responsible governance. A management-oriented framework is proposed in which AI-generated insights are connected to strategic objectives, financial constraints, customer value, and risk controls.

Keywords: artificial intelligence, marketing decision-making, management, customer analytics, predictive analytics, marketing strategy, AI governance, digital transformation.

Introduction

The rapid development of artificial intelligence has changed the way organizations collect, interpret, and use information for managerial decision-making. Marketing functions are particularly affected because contemporary firms generate large amounts of customer, transaction, communication, and digital interaction data. AI systems can transform these data into predictions and recommendations that support decisions concerning customers, products, prices, communication channels, and resource allocation [1]. Recent research on AI and management decision-making shows that the literature increasingly focuses on forecasting, classification, knowledge extraction, and decision-support applications [1].

From a management perspective, the significance of AI lies not only in automation but also in its capacity to improve the quality and speed of decisions. Traditional marketing decisions often depend on historical reports, managerial experience, surveys, and periodic market research. AI-enabled systems can complement these approaches by continuously processing new information and identifying relationships that may be difficult to detect through manual analysis. In advertising, for example, AI has become associated with programmatic advertising, computational targeting, campaign optimization, and measurement of advertising effectiveness [2].

However, the adoption of AI also changes managerial responsibility. Decisions supported by algorithms may be affected by biased training data, inappropriate model design, incomplete information, privacy constraints, or weak organizational controls. NIST's AI Risk Management Framework emphasizes the need to govern, map, measure, and manage AI-related risks throughout the system lifecycle [3]. Therefore, the central managerial challenge is not simply whether an enterprise should use AI, but how AI-generated insights can be incorporated into responsible and strategically aligned decision processes.

© 2026 International Conference on Artificial Intelligence and Applications . All Rights Reserved.

The purpose of this article is to examine how artificial intelligence influences marketing decision-making and to identify the managerial conditions required for effective and responsible implementation. The article focuses on the connection between AI capabilities, marketing decisions, organizational performance, and managerial judgment.

Literature review

The relationship between AI and marketing has developed from isolated automation applications toward broader AI-enabled marketing capabilities. Manis and Madhavaram argue that AI can enable marketing capabilities at different levels, creating opportunities to strengthen how organizations acquire, process, and apply market knowledge [4]. This perspective is important because it places AI within the capability structure of the firm rather than treating it merely as a technical tool.

AI advertising research provides another important perspective. Ford et al. identify major streams including AI-driven advertising innovations, computational advertising, programmatic advertising, and advertising effectiveness [2]. These developments demonstrate that AI can influence decisions across the marketing process, from audience selection to campaign optimization and performance evaluation.

The management literature also emphasizes that AI can support decision-making through forecasting and classification. A structured review of 204 peer-reviewed English-language studies found that AI research in management decision-making is increasingly concerned with forecasting, classification, knowledge management, and information extraction [1]. This suggests that AI can create value when managers use analytical outputs to reduce uncertainty and improve the timing and quality of decisions.

At the same time, the literature stresses that AI adoption should be accompanied by governance mechanisms. NIST's AI Risk Management Framework recommends a structured approach built around governance, mapping, measurement, and management of AI risks [3]. For marketing managers, this is particularly relevant when AI systems process personal data, make customer-level predictions, or automatically influence communication and pricing decisions.

Overall, the literature indicates that AI creates substantial opportunities for marketing decision-making, but its organizational value depends on data quality, managerial capabilities, technological integration, and responsible governance. This article therefore adopts a management perspective that combines AI capability with human judgment and organizational controls.

Methodology

The study applies a qualitative conceptual research design based on structured analysis of recent academic and institutional sources. The literature was selected to cover three interconnected areas: AI-supported management decision-making, AI-enabled marketing capabilities and advertising, and responsible AI risk management. Particular attention was given to peer-reviewed research and authoritative institutional guidance published in recent years.

The analytical procedure consisted of three stages. First, the literature was examined to identify the principal AI capabilities relevant to marketing management. Second, these capabilities were linked to specific managerial decisions, including customer segmentation, demand forecasting, pricing, campaign allocation, and performance evaluation. Third, the potential organizational risks and governance requirements associated with AI-supported decisions were assessed. The resulting conceptual synthesis was used to develop a management-oriented framework for integrating AI into marketing decision-making.

The study is conceptual rather than econometric; therefore, it does not claim causal estimates of AI adoption on firm performance. Its contribution is to organize the main decision mechanisms and managerial requirements identified in the literature into an integrated analytical structure.

Results and discussion

The analysis indicates that AI affects marketing decision-making through several interconnected mechanisms. First, AI strengthens customer analytics by allowing managers to identify behavioral patterns and construct more refined customer segments. Instead of relying only on demographic characteristics, organizations can combine purchasing behavior, digital interactions, transaction

© 2026 International Conference on Artificial Intelligence and Applications . All Rights Reserved.

frequency, and engagement indicators. This can support differentiated value propositions and more precise allocation of marketing resources [4].

Second, AI improves demand forecasting. Predictive models can analyze historical sales, customer behavior, seasonality, campaign responses, and other relevant variables to estimate future demand. From a management perspective, better forecasts can support decisions about inventory, promotional timing, production coordination, and marketing budgets. However, managers should recognize that predictions are conditional on the quality and stability of the underlying data.

Third, AI can improve pricing and promotional decisions. Algorithms can evaluate customer responses, market signals, and historical campaign results to identify potentially effective price or promotion configurations. Nevertheless, automated pricing should remain subject to managerial and ethical controls because aggressive optimization may produce undesirable customer reactions or create fairness concerns.

Fourth, AI supports marketing communication and advertising decisions. AI-based systems can assist in audience targeting, content selection, campaign optimization, and performance measurement. Research on AI advertising shows that computational and programmatic approaches have become central areas of AI-related marketing research [2]. This means that managers increasingly need to evaluate marketing activities not only by creative quality but also by the quality of data, algorithms, targeting logic, and measurable outcomes.

Fifth, AI can strengthen marketing performance management. Managers can integrate indicators such as customer acquisition cost, conversion rate, customer lifetime value, return on marketing investment, churn probability, and campaign profitability into decision dashboards. The value of AI is greatest when these indicators are connected to strategic objectives rather than used as isolated technical metrics.

The analysis also identifies several risks. Poor-quality or unrepresentative data can generate misleading recommendations. Algorithmic bias can result in unequal treatment of customer groups. Privacy and data protection risks can arise when customer-level information is collected and processed without adequate controls. In addition, opaque models may reduce managerial trust and make it difficult to explain why a particular recommendation was generated. NIST recommends continuous governance, measurement, and management of AI risks, which provides a useful basis for addressing these challenges [3].

From a management perspective, the most appropriate model is therefore human-AI collaboration. AI should perform high-volume analytical tasks and generate evidence-based recommendations, while managers retain responsibility for strategic interpretation, ethical evaluation, resource prioritization, and final decisions. This approach reduces the risk of blind reliance on automated outputs while preserving the efficiency advantages of AI.

AI capability	Marketing decision	Management value
Customer analytics	Segmentation and targeting	More precise allocation of resources
Predictive analytics	Demand forecasting	Better planning and uncertainty reduction
Optimization algorithms	Pricing and promotion	Improved efficiency of marketing actions
AI advertising	Audience and campaign selection	Higher relevance and measurable performance
Decision dashboards	Performance monitoring	Faster managerial feedback
Risk analytics	AI governance and control	Lower operational and reputational exposure

The proposed management framework can be summarized as a five-step cycle: define the strategic marketing objective; identify and prepare relevant data; apply AI models to generate insights; subject

© 2026 International Conference on Artificial Intelligence and Applications . All Rights Reserved.

recommendations to managerial and ethical review; and measure outcomes for continuous improvement. Such a cycle positions AI as an organizational capability rather than a standalone technology.

Conclusion

Artificial intelligence is becoming an important component of modern marketing decision-making because it enables organizations to transform large and complex datasets into forecasts, classifications, recommendations, and performance insights. The analysis shows that AI can contribute to customer segmentation, demand forecasting, pricing, advertising, campaign optimization, and marketing performance management.

However, the managerial value of AI depends on more than technological adoption. Effective implementation requires high-quality data, appropriate analytical models, skilled managers, cross-functional coordination, and responsible governance. AI-generated recommendations should be evaluated in relation to organizational strategy, customer value, financial objectives, and potential risks.

The study concludes that the most sustainable approach is human-AI collaboration. Managers should use AI to expand analytical capacity and improve decision speed while retaining responsibility for strategic judgment and accountability. Enterprises that combine AI capabilities with effective governance can strengthen marketing effectiveness, improve resource allocation, and develop more adaptive decision-making systems.

Future research should empirically examine the relationship between AI adoption and measurable marketing and financial outcomes across industries and emerging markets. Special attention should also be given to explainable AI, customer trust, algorithmic fairness, data governance, and the organizational capabilities required for successful AI transformation.

References

1. The role of artificial intelligence for management decision: A structured literature review. (2024). Management Decision, 63(10), 3262–3280. https://doi.org/10.1108/MD-08-2023-1331.
2. Ford, J., Jain, V., Wadhwani, K., & Goyal Gupta, D. (2023). AI advertising: An overview and guidelines. Journal of Business Research, 166, 114124. https://doi.org/10.1016/j.jbusres.2023.114124.
3. Tabassi, E. (2023). Artificial Intelligence Risk Management Framework (AI RMF 1.0). NIST AI 100-1. National Institute of Standards and Technology. https://doi.org/10.6028/NIST.AI.100-1.
4. Manis, K.T., & Madhavaram, S. (2023). AI-enabled marketing capabilities and the hierarchy of capabilities: Conceptualization, proposition development, and research avenues. Journal of Business Research, 157, 113485. https://doi.org/10.1016/j.jbusres.2022.113485.
5. Huang, M.-H., & Rust, R.T. (2021). A strategic framework for artificial intelligence in marketing. Journal of the Academy of Marketing Science, 49, 30–50. https://doi.org/10.1007/s11747-020-00749-9.
6. Davenport, T., Guha, A., Grewal, D., & Bressgott, T. (2020). How artificial intelligence will change the future of marketing. Journal of the Academy of Marketing Science, 48, 24–42. https://doi.org/10.1007/s11747-019-00696-0.
7. Chintalapati, S., & Pandey, S.K. (2022). Artificial intelligence in marketing: A systematic literature review. International Journal of Market Research, 64(1), 38–68. https://doi.org/10.1177/14707853211018428.
8. Dwivedi, Y.K., Hughes, L., Ismagilova, E., Aarts, G., Coombs, C., Crick, T., et al. (2021). Artificial intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. International Journal of Information Management, 57, 101994. https://doi.org/10.1016/j.ijinfomgt.2019.08.002.

© 2026 International Conference on Artificial Intelligence and Applications . All Rights Reserved.